

REVISIONARY NOTES ON THE GENERA
OF EUCHEILINI
(COLEOPTERA, CARABIDAE)

BY HANS REICHARDT¹

Departamento de Zoologia, Secretaria da Agricultura,
São Paulo, Brazil

In the course of my studies on Neotropical Carabidae I have discovered several interesting taxonomic novelties about the endemic tribe Eucheilini which seem to be important enough to be reported on. Even though I have examined the types of the species of Eucheilini which are preserved in the Muséum National d'Histoire Naturelle, Paris, in July, 1964², it is as yet impossible to revise the tribe at the species level, since the species of *Inna*, one of the two genera of Eucheilini, are very poorly understood at present. Material in collections is very scarce. I hope that in the near future accumulation of enough specimens will allow a specific revision of this interesting tribe of Carabidae.

The material on which this revision is based has been borrowed (and partly also studied *in loco*) from the Departamento de Zoologia, São Paulo (CDZ), the Museo de la Universidad de La Plata, Argentina (MLP), the Museum of Comparative Zoology, Cambridge, Mass. (MCZ), the Muséum National d'Histoire Naturelle, Paris (MNHN) and the United States National Museum, Washington, D. C. (USNM). The loan of this interesting material is gratefully acknowledged.

The tribe and the genera included in this revision are not formally redescribed, since it seems to me that for the time being the characterization presented below is enough.

Tribe Eucheilini

Eucheilinae Bates, 1883, Biol. Centr. Amer., Col., 1 (1):168.

Periglossinae Liebke, 1929 Ent. Anz., 9:247. NEW SYNONYMY.

Euchilini; Csiki, 1932, Col. Cat., 124:1585; Blackwelder, 1944, Bull. U.S.N. Mus., 185:70.

Periglossini; Csiki, 1932, Col. Cat., 124:1585; Blackwelder, 1944, Bull. U.S.N. Mus., 185:70.

Eucheilini; Ball, 1960, Beetles of the U.S.:164.

¹Currently at the Museum of Comparative Zoology, Harvard University
Manuscript received by the editor December 1, 1965.

²A trip supported by the Evolutionary Biology Committee at Harvard University; this support is gratefully acknowledged.

This small Neotropical tribe includes only two genera of small, Lebiini-like Carabidae. Their systematic position has been uncertain for a long time. Even though *Eucheila*, the type-genus, was described as early as 1829 (in Lebiini), the true relations to Helluonini were only recognized in 1883, when Bates erected the subfamily Eucheilinae to incorporate *Eucheila* and *Inna* (the latter also described in Lebiini, and at first considered as related to *Eucheila* by Bates), and placed it in the vicinity of the Helluonini.

In 1929 Liebke described the subfamily Periglossinae for a new Central-American genus, *Periglossium*. From his description and illustrations of this beetle, it is evident that *Periglossium* is a synonym of *Inna*, and consequently the name Periglossinae has to be suppressed.

The characters which link the Eucheilini to the Helluonini are the strangely modified mouthparts (Figs. 1-8). In spite of similarities, the Eucheilini are undoubtedly a distinct tribe, easily distinguished from the Lebiini by the completely different mouthparts and from the Helluonini by their general Lebiini-habitus, as well as by the antennae which are pubescent from the 4th segment on in Eucheilini (pubescent from base in Helluonini). The aedeagus of the Eucheilini was unknown up to now. I was able to dissect one male of *Eucheila strandi* (Liebke) and one of *Inna boyeri* (Solier) (see Figs. 11 and 12). The two aedeagi are very similar, and this fact strengthens the supposed relation between the two genera. The left paramere of the aedeagus is reduced, but still present, being somewhat lobate in the two species. The genitalia of Neotropical Helluonini are also unknown, so that no comparison can be made now.

Geographic distribution: The tribe is typically Neotropical, extending from Argentina to the southern United States (Texas). No species has yet been reported from the Antilles.

Key to genera

1. Labrum convex, covering apex of mandibles, with short setae only on lateral margins (Fig. 8); lateral margins of pronotum smooth, not crenulated; pronotum with basal setae only; tarsal claws pectinate *Eucheila* Dejean
- Labrum flat, not covering apex of mandibles, with 4 long setae on anterior margin, 2 longer ones and a series of short ones laterally (Fig. 3); lateral margins of pronotum crenulated; pronotum with basal and latero-median setae; tarsal claws simple *Inna* Putzeys

Eucheila Dejean

- Eucheyla* Dejean, in Dejean and Boisduval, 1829, Icon. Col. Eur., 1:60, 176-177 (type-species, by monotypy, *Eucheyla flavilabris* Dejean).
Eucheila; Dejean, 1831, Spec. gen. Col., 5:455-456; Chaudoir, 1848, Bull. Soc. Nat. Moscow, 21 (1):124; Lacordaire, 1854, Gen. Col., 1:148.
Euchila Dejean (nec *Euchila* Billberg); Agassiz, 1846, Nomencl. Zool. (emendation); Gemminger and Harold, 1868, Cat. Col., 1:155; Csiki, 1932, Col. Cat., 124:1585; Blackwelder, 1944, Bull. U.S.N. Mus., 185:70.

The genus was originally spelled *Eucheyla* by Dejean, who in the original description gave the Greek derivation of the name. It is obvious that this spelling was an incorrect transliteration. Dejean himself must have realized this, and in 1831 used the name *Eucheila* instead, without any mention of *Eucheyla*. According to article 32 of the International Code of Zoological Nomenclature, *Eucheyla* should be accepted as the "correct original spelling", since incorrect transliteration is not to be considered an inadvertent error (article 32, section a, ii). However, *Eucheyla* has remained unused as a senior synonym since 1829, and must, therefore, be considered a *nomen oblitum* (article 23, section b). *Eucheila* Dejean must, therefore, be considered the correct and valid name for the genus. *Eucheyla* Berlese, 1913, proposed as a subgenus of *Cheyletia* Haller, 1884 (Arachnida, Acari, Cheyletidae) is a junior homonym of *Eucheyla* Dejean, and has been replaced by *Neoeucheyla* Radford, 1950. Agassiz (1846) emended the name to *Euchila*, which is, however, a junior homonym of *Euchila* Billberg, 1820 (Insecta, Lepidoptera).

Eucheila Dejean is easily distinguished from *Inna* Putzeys by the characters given in the generic key. The genus was described for a single species, *flavilabris* Dejean; however, material of *Inna strandi* Liebke from the type-locality, proves that Liebke's species is congeneric with *flavilabris*.

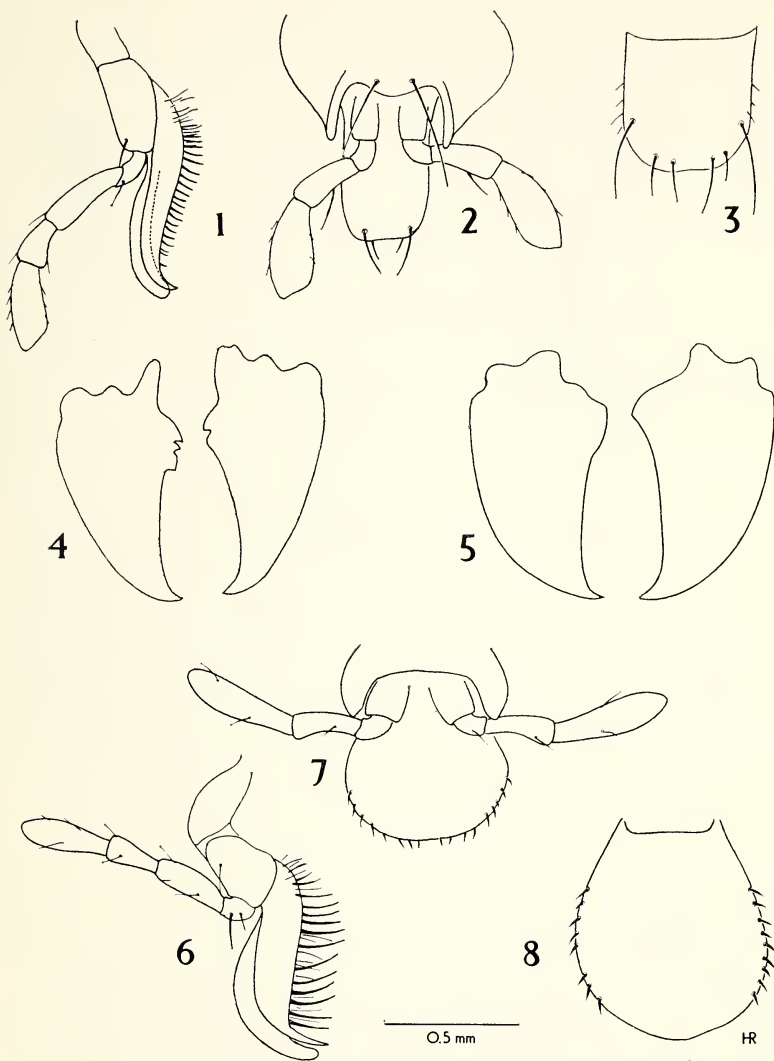
Key to species of Eucheila

1. Metallic-brown species with dark brown appendages and lighter labrum; elytra 9-carinate *strandi* (Liebke)
- Metallic-green species (sometimes very dark), with yellow appendages and labrum; elytra with vestigial carinae
- *flavilabris* Dejean

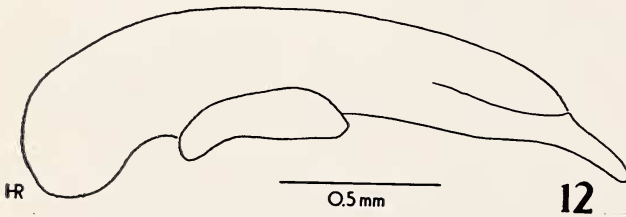
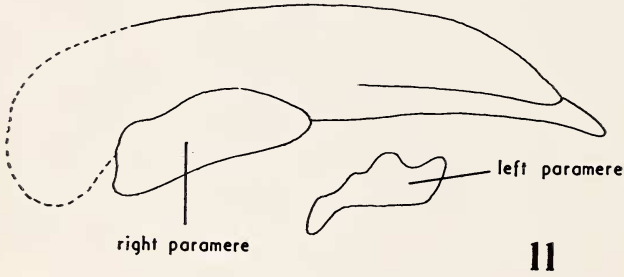
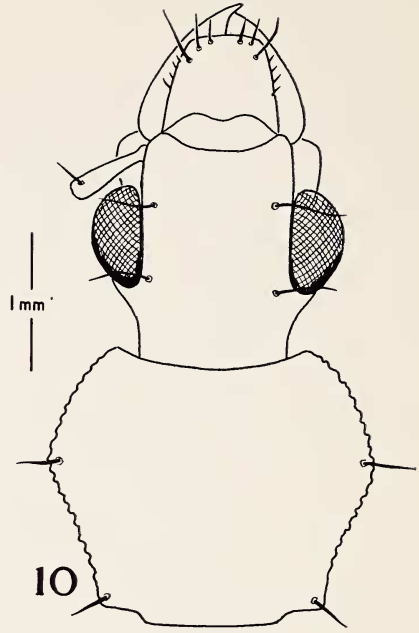
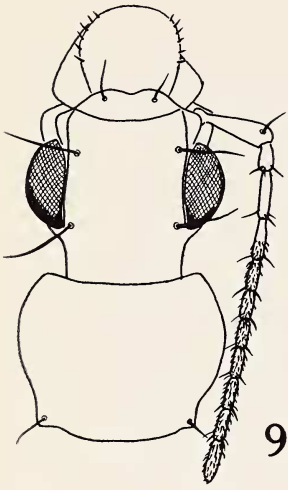
Eucheila strandi (Liebke), new combination.

(Figs. 5-8, 11)

Inna strandi Liebke, 1939, Festschr. Emb. Strand, 5:121 (type from Jatai, Brazil, in Liebke's collection; probably destroyed).



Figs. 1—4, *Inna boyeri* (Solier): Fig. 1, maxilla; Fig. 2, labium; Fig. 3, labrum; Fig. 4, mandibles; Figs. 5—8, *Eucheila strandi* (Liebke): Fig. 5, mandibles; Fig. 6, maxilla; Fig. 7, labium; Fig. 8, labrum.



The pectinate claws, the very typical labrum and labium and the non-crenulated margin of the pronotum put this species without doubt in the same genus as *flavilabris*. It is easily distinguished by the different color and the well developed elytral carinae.

Examined specimens (6): *Brazil: São Paulo*, Guatapar (1 ex., CDZ); *Gois*, Jata (3 exx., CDZ, MCZ); *Bahia*, no locality (1 ex., MNHN); *Cear*, no locality (1 ex., USNM).

Euchila flavilabris Dejean
(Fig. 9)

Euchyla flavilabris Dejean, in Dejean and Boisduval, 1829. Icon. Col. Eur., 1:178, pl. 8, fig. 3 (type from "environs de Rio-Janeiro", MNHN; examined).

Euchila flavilabris; Dejean, 1831, Spec. gen. Col., 5:456-457; Lacordaire, 1854, Gen. Col., 1, pl. 4, fig. 4; Putzeys, 1863, Mem. Soc. Sci. Lige, 18:72, pl. 2, figs. 75-77.

Euchila flavilabris is easily distinguished from *strandii* by the completely different color, especially that of the appendages. A few specimens are very dark, almost as brown as *strandii*; however, the elytral carinae are always vestigial and the appendages always yellow.

Examined specimens (14): *Brazil: Bahia*, Salbro (1 ex., MNHN); *Minas Gerais*, Matusinhos (1 ex. MNHN); *Serra do Caraa* (1 ex., MNHN); *Rio de Janeiro*, Nova Friburgo (6 exx., MNHN); *Guanabara*, Rio de Janeiro (1 ex., MNHN); *So Paulo*, Estao Biolgica de Boraceia, Salespolis (2 exx., CDZ); *Santa Catarina*, no locality (1 ex., MNHN). *Argentina: Santiago del Estero*, near Icao (1 ex., MNHN).

Inna Putzeys

Inna Putzeys, 1863, Mem. Soc. Sci. Lige, 18:71 (type-species, by monotypy, *Inna punctata* Putzeys); Chaudoir, 1872, Rev. Mag. Zool., (2) 23:219-221 (redescription).

Periglossium Liebke, 1929, Ent. Anz., 9:246-247 (type-species, by original designation, *Periglossium nevermanni* Liebke). NEW SYNONYMY.

Ten species of *Inna* are presently known, their distribution ranging from Argentina (*atrata* Dejean) to southern Texas (*texana* Schaeffer). My notes on the types suggest that some of the described species are synonyms, e.g., *Inna costulata* Chaudoir is differentiated from *granulata* Chaudoir only by color: *costulata* is coppery-metallic,

EXPLANATION OF PLATE I

Fig. 9, *Euchila flavilabris* Dejean, head and pronotum; Fig. 10, *Inna megala*, n. sp., head and pronotum; Fig. 11, aedeagus of *Euchila strandii* (Liebke); Fig. 12, aedeagus of *Inna boyeri* (Solier).

while *granulata* is very dark brown, almost non-metallic. This color difference seems to be a very weak character, but since only the types are known, further decisions cannot be made now. It is also possible that *nevermanni*, from Costa Rica, is a synonym of *costulata*, which ranges from Colombia to Guatemala. The type of *Inna nevermanni* (Liebke) has probably been destroyed with part of Liebke's collection and no material is presently available from Costa Rica, so that nothing else can be said here.

The generic description of *Periglossium* Liebke does not differ in any respect from that of *Inna* Putzeys. There seems to be no reason to maintain *Periglossium*, which was probably described by Liebke when he did not know *Inna*.

Inna is easily distinguished from *Eucheila* by the characters given in the key.

Even though I have seen the types of most species, as mentioned above, I am presenting below new data only on two of the older species, of which material was available and could be identified. The recognition of the new species is based on comparison with the original descriptions of all the older species as well as on my notes on their types.

Ina boyeri (Solier)
(Figs. 1-4, 12)

Polystichus boyeri Solier, 1835, Ann. Soc. Ent. France, 4:111 (holotype male from "Colombia", MNHN; examined).

Inna boyeri; Chaudoir, 1872, Rev. Mag. Zool., (2) 23:241-242 (redescription).

I am referring to this species, originally described from Colombia, a series of 10 specimens from Barueri in the state of São Paulo, Brazil (CDZ, MCZ), which agree with the description and my notes on the type. *Inna boyeri* is very similar to *costulata*; however, it has more densely punctate pronotum and head, and is slightly larger in size.

Inna atrata (Dejean)

Cymindis atrata Dejean, 1831. Spec. gen. Col., 5:327 (holotype from "Buenos-Ayres", MNHN; examined).

Inna atrata; Chaudoir, 1872, Rev. Mag. Zool., (2) 23:243-244.

The type-specimen in the Paris Museum is very damaged: the left elytron and the left antenna are missing, as well as parts of several legs. The species is very characteristic, having a densely punctate head and being the smallest species of the genus.

Examined specimens (3): *Argentina: Buenos Aires*, Buenos Aires (1 ex., MLP); *Isla Martin Garcia* (1 ex., MLP); *Misiones*, no locality (1 ex., MLP).

Inna megala, n. sp.

(Fig. 10)

Description: Reddish-brown, with light, almost yellow appendages; elytral margin very light brown. *Head* — densely punctate dorsally, with longitudinal striation on antennal tubercules; whole surface micro-reticulate. *Pronotum* — wider than long, slightly wider than head; densely punctate on surface, with somewhat granulate aspect; posterior angles more or less square; lateral margins turned upwards, crenulated; median line in a slight depression which continues on each side anteriorly (forming a Y). *Elytra* — with 8 irregularly punctured sulci; 7 discal interstices more or less smooth, convex; 8th and 9th interstices very slightly indicated only, mainly posteriorly; almost twice as wide as pronotum, less than twice as long as wide; elytral margin with setose punctures. *Measurements* — holotype, 3.7 × 10.3 mm; paratype, 4.1 × 10.9 mm.

Types: *Paraguay*: holotype female, Villarrica, F. Schade col. (MCZ n. 31197); paratype female, Amambay, A. Schulze col. (CDZ).

Inna megala is very similar to *planipennis* Bates, which is only known from Mexico. The two species are of about the same size; *planipennis* has a less densely punctured head, especially between the eyes; the pronotum of *megala* is more transverse than that of *planipennis*.

Specific name: *megala* is derived from the Greek adjective *meγas*, meaning large.

REFERENCES

- BALL, G. E.
1960. Carabidae, in Arnett, *The Beetles of the United States*, pp. 55-182, 63 figs., Washington, D. C.
- BATES, H. W.
1881-1884. Carabidae in *Biologia Centrali-Americana, Coleoptera*, 1, 299 pp., 13 color plates.
- BLACKWELDER, R. E.
1944. Checklist of the Coleopterous Insects of Mexico, Central America, the West Indies and South America. Part 1. *Bull. U.S.N. Mus.*, 185:1-88.
- CHAUDOIR, M.
1842. Mémoire sur la famille des carabiques. *Bull. Soc. Nat. Moscou*, 21:3-134.

1872. Descriptions d'espèces nouvelles de carabiques de la tribu des troncatipennes, et remarques synonymiques. *Rev. Mag. Zool.*, (2) 23:219-221.
- CSIKI, E.
1932. Carabidae, Harpalinae VII, in *Coleopterorum Catalogus*, pars 124:1279-1598.
- DEJEAN, P. F. M. A.
1829. In Dejean and Boisduval, *Iconographie et histoire naturelle des Coléoptères d'Europe*, 1, 400 pp., 60 pls., Paris.
1831. *Spec. gen. Col.*, 5, 883 pp., Paris.
- GEMMINGER, M. AND E. VON HAROLD
1868. *Catalogus Coleopterorum . . .*, 1, 424 pp., Monachii.
- LACORDAIRE, J. T.
1854. *Genera des Coléoptères . . .*, 1. 486 pp., Paris.
- LIEBKE, M.
1929. *Laufkaeferstudien*. VI. *Ent. Anz.*, 9:245-247, 261-265, figs.
1939. *Neue Laufkaefer*. *Festschr. Embr. Strand*, 5:91-130, 21 figs.
- PUTZEYS, J. A. A. H.
1863. *Postscriptum ad clivinidarum monographiam atque de quibusdam alliis*. *Mem. Soc. Sci. Liège*, 18:1-78, figs.
- SOLIER, A. J. J.
1835. *Description de quelques espèces nouvelles de la famille des carabiques*. *Ann. Soc. Ent. France*, 4:111-121.